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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/842,604 | 04/26/2001 | Haixiang He | 2494/105 | 8615 |

34645 7590 01/16/2007
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| EXAMINER |
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NGUYEN, HAI V

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| ART UNIT | PAPER NUMBER |
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2142

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/16/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/842,604

Applicant(s)

HE, HAIXIANG

Examiner

Hai V. Nguyen

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the pre-appeal brief decision on 03 November 2006.
2. Claims 1-28 are presented for examination.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-28 are rejected under 35 U.S.C. 102(e) as being anticipated by **Tang et al.** U.S. patent # **6,839,348 B2**.
5. As to claim 1, Tang teaches substantially the invention as claimed, including a method of producing a multicast tree (*col. 15, lines 20-22, lines 40-42; col. 16, lines 6-8col. 18, lines 47-54*) for an application configured to use a first multicast routing protocol (*PIM, col. 10, lines 15-43*) from existing protocol independent multicast routing information (*Fig. 4*) in a network, at least some of the protocol independent multicast routing information (*Fig. 4, MVLAN Tags/IDs*) having been created from multicast information associated with an application configured to use a second multicast routing protocol (*VLAN encapsulation or tagging protocols, or VTP, col. 8, lines 21-22; col. 10, lines 63-67*), the network including a plurality of network devices (*Fig. 1, routers 122-*

Art Unit: 2142

146; sources 140-144, or 106, 108) including at least a plurality of routers (*Fig. 1, routers 122-146*) that are members of a multicast associated with the multicast tree, a set of the routers each including a protocol independent multicast database (*Fig. 3, table 308*) containing protocol independent multicast routing information, the method comprising the steps of:

accessing a plurality of the protocol independent multicast routing databases (*Fig. 3, VLAN tag source 306, col. 9, lines 42-64; col. 10, lines 50-60; col. 13, lines 2-35; col. 22, lines 20-27, 46-50*);

retrieving at least a portion of the existing protocol independent multicast routing information (*Fig. 4, MVLAN Tags/IDs*) from each located protocol independent multicast database (*Fig. 3, creating shared-tree/source-specific route entry in table 308; col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*);

tracing (*examining*) the retrieved existing protocol independent multicast routing information to form the multicast tree (*Fig. 3, creating shared-tree/source-specific route entry in table 308; col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

6. As to claim 2, Tang teaches, wherein the multicast includes a root node (*a group node*), the retrieved existing protocol independent multicast routing information being traced from the root node, the root node being one of the plurality of network devices (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

Art Unit: 2142

7. As to claim 3, Tang teaches, wherein the network implements the Internet Protocol, wherein the first multicast protocol is DVMRP (*col. 3, lines 15-25*), and wherein the second multicast protocol is PIM (*col. 3, lines 40-45; col. 10, lines 15-43*).

8. As to claim 4, Tang teaches, wherein each of the set of routers includes a protocol independent unicast database (*Fig. 1, the unicast routing table; col. 16, lines 45-49*) having network information, the method further including:

accessing a plurality of the protocol independent unicast databases (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*);

retrieving at least a portion of the network information from each accessed protocol independent unicast database (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*); and

using the retrieved network information to form the multicast tree (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

9. As to claim 5, Tang teaches, wherein each protocol independent multicast database is a management information base (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

10. As to claim 6, Tang teaches, wherein at least one of the plurality of network devices includes a protocol dependent multicast database, the multicast tree being

Art Unit: 2142

formed free from any data retrieved from the protocol dependent multicast database (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

11. As to claim 7, Tang teaches, wherein the retrieved protocol independent multicast information is traced by an application incorporating the Simple Network management Protocol (SNMP) (*col. 9, lines 42-64*).

12. As to claim 8, Tang teaches, wherein the set of routers includes no more than one of the plurality of network devices (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

13. As to claim 9, Tang teaches, wherein the set of routers includes a first router and a second router, each protocol independent multicast database including a set of protocol independent multicast data, the set of protocol independent multicast data being different in the protocol independent multicast database in the first router than the set of protocol independent multicast data in the protocol independent multicast database in the second router (*Fig. 3, col. 9, lines 42-64; col. 13, lines 2-35; col. 15, lines 20-22, 38-42; col. 16, lines 6-11, 45-49; col. 18, lines 16-20; col. 2, lines 20-27, 46-50*).

14. Claim 10 is corresponding apparatus claim of claim 1; therefore, it is rejected under the same rationale as in claim 1.

15. Claims 11-17 are similar limitations of claims 2-8; therefore, they are rejected under the same rationale as in claims 2-8.

Art Unit: 2142

16. Claim 18 is corresponding computer readable medium claim of claim 1; therefore, it is rejected under the same rationale as in claim 1.

17. Claims 19-25 are similar limitations of claims 2-8; therefore, they are rejected under the same rationale as in claims 2-8.

18. Claim 26 is corresponding apparatus in means plus function claim of claim 1; therefore, it is rejected under the same rationale as in claim 1.

19. Claims 27-28 are similar limitations of claims 4-5; therefore, they are rejected under the same rationale as in claims 4-5.

Art Unit: 2142


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai V. Nguyen whose telephone number is 571-272-3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hai V. Nguyen
Examiner
Art Unit 2142



ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER